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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,747	03/21/2006	Kouichi Noguchi	NOGU3002/GAL	3332

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ALEXANDRIA, VA 22314-1176

EXAMINER
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HENKEL, DANIELLE B

ART UNIT	PAPER NUMBER
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1797

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,747	<b>Applicant(s)</b> NOGUCHI ET AL.	
	<b>Examiner</b> DANIELLE HENKEL	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Summary*

1. This is the initial Office action on the 10/572747 application filed on March 21, 2006.
2. Claims 1-4 are pending and have been fully considered.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over KANEGASAKI (2003) in view of HO (US 6727089).

a. With respect to claim 1, KANEGASAKI teaches a cell observation chamber used for detecting cell chemotaxis comprising a dish-shaped bottom support body with a window for observing the movement of cells provided in the center of the bottom part thereof; a glass substrate adapted to be placed on the bottom surface of said bottom support body; a dish-shaped intermediate support body with an opening portion formed in the center of the bottom part thereof, said intermediate support body being adapted to be attached to said bottom support body to press and fix said glass substrate from above onto the bottom surface of said bottom support body; a substrate with a plurality of through holes for guiding cell suspension and chemotactic factor containing solution therethrough formed therein in a vertically penetrating manner, said substrate being adapted to be fixed onto the surface in the central part of said glass substrate, in which a concavo-convex shape is formed in the surface facing said glass substrate to form at least a pair of wells and a flow path for communicating of said wells with said glass substrate; a packing member with a plurality of through holes for guiding said cell suspension and said chemotactic factor containing solution therethrough formed therein in a vertically penetrating manner, said packing

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member being adapted to be fitted into said opening portion that is formed in the center of the bottom part of said intermediate support body to press said substrate from above; a dish-shaped cover block body with a plurality of through holes for guiding said cell suspension and said chemotactic factor containing solution therethrough formed in the center of the bottom part thereof in a vertically penetrating manner, said cover block body being adapted to be attached to said bottom support body with said intermediate support body attached thereto to press and fix said substrate from above onto said glass substrate through said packing member; and one of said pair of wells is adapted to be provided or given with said cell suspension through each one of said plurality of through holes that are formed, respectively, in said cover block body, said packing member, and said substrate, while the other of said wells is adapted to be provided or given with said chemotactic factor containing solution through each one of said plurality of through holes that are formed, respectively, in said cover block body, said packing member, and said substrate, so that a state where cells move from one to the other of said wells through said flow path can be observed and the number of said cells can be measured through said window provided in said bottom support body (Sections 2.1, 2.2, 2.5 and Figure 1).

KANEGASAKI does not explicitly disclose a solution temperature control device.

However HO teaches a device for temperature control of a cell observation chamber comprising a solution temperature control device for controlling solutions filling the chamber to be a predetermined temperature (Column 3, lines

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18-37), the solution temperature control device comprising a first temperature controller measuring the temperature of solutions filling the chamber and controlling solutions to a predetermined temperature (Column 3, lines 38-55); and a second temperature controller measuring the temperature of a heating section that heats the observation chamber from outside, thereby indirectly heats the solutions filling the chamber, and for controlling the heating section to a predetermined preheating temperature (Column 2, lines 16-40). At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the device of KANEGASAKI to include the solution temperature control device as taught by HO because it allows for the support of cell growth on a microscope stage for a long period of time by preventing them from deteriorating due to changes in temperature from their normal physiological environment (Column 1, lines 5-38).

b. With respect to claim 2, HO teaches the first temperature controller comprises a temperature sensor measuring the temperature of the solutions filling the chamber attached to the cell observation chamber (Column 2, lines 49-55) and a liquid storage chamber provided in an isolated position where the solution can receive the indirect heating by the heating section with the solution (Column 3, lines 38-55). HO does not specifically disclose the temperature sensor being detachable or located in the liquid storage chamber. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the sensor detachable, since it has been held that constructing a formerly integral

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structure in various elements involves only routine skill in the art. *Nerwin v Erlicnman*, 168 USPQ 177, 179. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the sensor in the liquid reservoir, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

c. With respect to claim 3, HO teaches the temperature controller prevents the heating section from being overheated (Column 3, lines 17-37).

d. With respect to claim 4, With respect to claim 1, KANEGASAKI teaches a cell observation chamber used for detecting cell chemotaxis comprising a dish-shaped bottom support body with a window for observing the movement of cells provided in the center of the bottom part thereof; a glass substrate adapted to be placed on the bottom surface of said bottom support body; a dish-shaped intermediate support body with an opening portion formed in the center of the bottom part thereof, said intermediate support body being adapted to be attached to said bottom support body to press and fix said glass substrate from above onto the bottom surface of said bottom support body; a substrate with a plurality of through holes for guiding cell suspension and chemotactic factor containing solution therethrough formed therein in a vertically penetrating manner, said substrate being adapted to be fixed onto the surface in the central part of said glass substrate, in which a concavo-convex shape is formed in the surface facing said glass substrate to form at least a pair of wells and a flow path for communicating of said wells with said glass substrate; a packing member with a

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plurality of through holes for guiding said cell suspension and said chemotactic factor containing solution therethrough formed therein in a vertically penetrating manner, said packing member being adapted to be fitted into said opening portion that is formed in the center of the bottom part of said intermediate support body to press said substrate from above; a dish-shaped cover block body with a plurality of through holes for guiding said cell suspension and said chemotactic factor containing solution therethrough formed in the center of the bottom part thereof in a vertically penetrating manner, said cover block body being adapted to be attached to said bottom support body with said intermediate support body attached thereto to press and fix said substrate from above onto said glass substrate through said packing member; and one of said pair of wells is adapted to be provided or given with said cell suspension through each one of said plurality of through holes that are formed, respectively, in said cover block body, said packing member, and said substrate, while the other of said wells is adapted to be provided or given with said chemotactic factor containing solution through each one of said plurality of through holes that are formed, respectively, in said cover block body, said packing member, and said substrate, so that a state where cells move from one to the other of said wells through said flow path can be observed and the number of said cells can be measured through said window provided in said bottom support body (Sections 2.1, 2.2, 2.5 and Figure 1).

KANEGASAKI does not explicitly disclose a solution temperature control device.

However HO teaches a device for temperature control of a cell observation



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chamber comprising a solution temperature control device for controlling solutions filling the chamber to be a predetermined temperature (Column 3, lines 18-37). At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the device of KANEGASAKI to include the solution temperature control device as taught by HO because it allows for the support of cell growth on a microscope stage for a long period of time by preventing them from deteriorating due to changes in temperature from their normal physiological environment (Column 1, lines 5-38). In addition, HO teaches a temperature sensor measuring the temperature of the solutions filling the chamber attached to the cell observation chamber (Column 2, lines 49-55) and a liquid storage chamber provided in an isolated position where the solution can receive the indirect heating by the heating section with the solution (Column 3, lines 38-55). HO does not specifically disclose the temperature sensor being detachable or located in the liquid storage chamber. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the sensor detachable, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v Erlichman*, 168 USPQ 177, 179. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the sensor in the liquid reservoir, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIELLE HENKEL whose telephone number is (571)270-5505. The examiner can normally be reached on Mon-Thur: 11am-8pm, Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Beisner/  
Primary Examiner, Art Unit 1797

/DANIELLE HENKEL/  
Examiner, Art Unit 1797